CLAIMS

1. An engine control system comprising:
an engine having a manifold; and
a controller that calculates a desired area based on a desired

5   manifold absolute pressure of said manifold and a warm-up torque
based on a requested torque wherein said desired manifold absolute
pressure is based on said warm-up torque.

2. The engine control system of claim 1 wherein said warm-
up torque is further based on air flow efficiency of said manifold.

3. The engine control system of claim 1 wherein desired
area is further based on a desired RPM and a reference torque of said
engine.

4. The engine control system of claim 1 wherein said
requested torque is the product of an airflow efficiency of said engine,
an efficiency of the cylinders of said engine and the sum of said warm-
up torque and an initial torque of said engine.

5. The engine control system of claim 4 wherein said warm-
up torque is the sum of the products of said desired manifold absolute
pressure and a manifold pressure coefficient, an instantaneous RPM
and an RPM coefficient, a spark and a spark coefficient and a squared

5   spark and a squared spark coefficient.

6. A method for controlling torque in an internal combustion
engine, said method comprising:
measuring engine parameters;
estimating engine torque;

5   calculating desired air per cylinder of said engine;

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calculating desired manifold absolute pressure of a manifold of said engine based on a function of engine torque;

calculating desired area based on said desired manifold absolute pressure; and

10   using said desired area to control torque output of said engine.

7. The method of claim 6 wherein calculating manifold absolute pressure includes;

calculating a warm-up torque based on a requested torque; and

5   calculating a desired manifold absolute pressure based on said warm-up torque.

8. The method of claim 7 wherein said warm-up torque is further based on air flow efficiency of said manifold.

9. The method of claim 6 wherein measuring engine parameters includes measuring a current engine RPM, a current manifold absolute pressure, a current manifold air flow and a current air fuel ratio.

10. The method of claim 6 further comprising calculating a desired manifold air flow of said manifold of said engine.

11. A method for controlling torque in an internal combustion engine, said method comprising:

measuring engine parameters;

estimating engine torque;

5   calculating desired air per cylinder of said engine;

calculating desired RPM of said engine based on a measured engine RPM and a reference torque of said engine;

calculating desired area based on said desired RPM; and

using said desired area to control torque output of said engine.

12. The method of claim 11 wherein measuring engine parameters includes measuring a current engine RPM, a current manifold absolute pressure, a current manifold air flow and a current air fuel ratio.

13. The method of claim 11 further comprising calculating a desired manifold air flow of said manifold of said engine.

14. A method for controlling torque in an internal combustion engine said method comprising:

measuring engine parameters;

estimating engine torque;

5   calculating desired air per cylinder of said engine;

calculating desired manifold absolute pressure of a manifold of said engine based on a function of engine torque;

calculating desired RPM of said engine based on a measured engine RPM and a reference torque of said engine;

10   calculating desired area based on said desired manifold absolute pressure and said desired RPM; and

using said desired area to control torque output of said engine.

15. The method of claim 14 wherein calculating manifold absolute pressure includes;

calculating a warm-up torque based on a requested torque; and

5   calculating a desired manifold absolute pressure based on said warm-up torque.

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16. The method of claim 15 wherein said warm-up torque is further based on air flow efficiency of said manifold.

17. The method of claim 14 wherein measuring engine parameters includes measuring a current engine RPM, a current manifold absolute pressure, a current manifold air flow and a current air fuel ratio.

18. The method of claim 14 further comprising calculating a desired manifold air flow of said manifold of said engine.